

AMENDMENTS

Please amend the above-identified application, as follows:

In the Claims:

Please cancel claims 32-40 without prejudice.

Please add the following new claims:

*App b*  
*A*  
41. [New] An apparatus as recited in claim 1 wherein the x-ray source and the point of impingement upon the surface define an optic circle of radius R, and wherein the doubly-curved x-ray optic comprises a surface and a plurality of atomic planes of radius  $R_p$  which intersect the surface at an angle  $\alpha$ ; and wherein the radius of the atomic planes  $R_p$  of the doubly-curved optic is defined by the equation  $R_p = 2R \cos \alpha$ .

*App b*  
25 42. [New] An apparatus as recited in claim 41, wherein the angle  $\alpha$  is greater than  $0^\circ$  and less than  $90^\circ$

*App b*  
24 43. [New] An apparatus as recited in claim 42, wherein the angle  $\alpha$  is greater than  $0^\circ$  and less than  $20^\circ$ .

*App b*  
44. [New] An apparatus as recited in claim 41, wherein the doubly-curved optic is curved to a toroidal, ellipsoidal, spherical, parabolic, or hyperbolic shape.

45. [New] An apparatus as recited in claim 41, wherein the doubly-curved optic exhibits asymmetric Bragg diffraction.

46. [New] An apparatus as recited in claim 41, wherein the doubly-curved optic also focuses the x-rays on to the surface.

47. [New] An apparatus as in claim 46, wherein the doubly-curved optic focuses x-rays to a footprint on the surface and wherein the footprint comprises a largest dimension less than 1 mm.

48. [New] An apparatus as in claim 47, wherein the doubly-curved optic focuses x-rays to a footprint on the surface wherein the footprint comprises a largest dimension less than 500 microns.